



WACO, TEXAS

An Equal Opportunity Institution

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## **COURSE SYLLABUS AND INSTRUCTOR PLAN**

**FOUNDATIONS OF MATHEMATICAL  
REASONING MATH 0308. L88**

**16-Week Online Course**

**Co-requisite with MATH 1342.L88**

**INSTRUCTOR: Jess Collins**

**COVID 19 Notice:**

McLennan Community College is committed to providing you with every resource you need to reach your academic goals including your safety. We will continue to monitor the evolving situation with COVID 19 and adjust our safety guidelines to make sure we offer a safe environment for you and our faculty. Please make sure to consult your faculty and the MCC website at <https://www.mclennan.edu/crisis-management/coronavirus-updates/index.html> on any changes to these guidelines.

**An Equal Opportunity Institution**

**Spring 2022**

## Foundations of Quantitative Reasoning

MATH 0308.L88

### **Course Description:**

Foundations is a quantitative literacy-based course designed to provide students with the skills and conceptual understanding for success in a college-level statistics (Math 1342) or quantitative literacy course (Math 1332). It is organized around big mathematical and statistical ideas. Foundations will help students develop conceptual understanding and acquire multiple strategies for solving problems.

The course supports students in developing skills, strategies, and reasoning needed to succeed in mathematics, including communication and appropriate use of technology. Topics include the study of numeracy and real number system; algebraic concepts, notation, and reasoning; quantitative relationships; mathematical models; and problem solving. Semester Hours: 3.

**Prerequisite:** TSI math score of 328-341 or consent of division director

### **Course Notes and Instructor Recommendations:**

The syllabus and the log-in information for Pearson's MyLabMath are in Brightspace while all instruction, homework, quizzes, and tests are located in MyLabMath which is an online platform that must be purchased by the student to access course information and assignments. In an online class, students need to be very diligent in doing the work in a timely manner. Due dates are set to keep students moving at a good pace. Since good time-management will be important for the student's success I recommend everyone create a schedule and **spend time daily on math**. I recommend that you spend at least 21 hours per week in viewing the lesson videos, taking notes, studying the definitions, concepts, and procedures presented and working homework assignments. Contact me with any questions or problems that you may have.

You **do not** have to purchase MyMathLab access for this course, but **rather purchase MyMathLab access for the statistics course: MATH1342.L88**. All homework assignments, quizzes, and tests for the course will be in the MyMathLab webpages of the statistics course

### **Instructor Information:**

Instructor Name: Jess Collins

MCC E-mail: jcollins@mclennan.edu

Office Phone Number: 254-299-8176

Office Location: Math Bldg; Office 226 B

Office/Teacher Conference Hours: MWF 10:00 – 11:30 am → by email  
4:30 – 7:00 pm →  
TTh 9:30 – 11:00 am → by email  
7:00 – 8:30 pm →

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### **Email Correspondence:**

I will respond to student email within 24 hours for communication received Monday through Saturday of each week. It may be bit slower response on Sunday, but I will try to respond to each email in a timely fashion. Be sure to contact me with questions and comments that you have about the course; I want to provide the help you need to be successful in the course.

Follow the instructions below when contacting me by email:

- Use your School email address...@mclennan.edu
- At the top of your email, indicate the course number and section: MATH 0308.L88
- Clearly express your questions (or comments) about any problems you are having in the course
- Give your first and last Name at the bottom of the email.

This will help me organize and file your questions so that I can email you in a timely fashion.

### **Required Text & Materials:**

1. Students **DO NOT** need to purchase the MyMathLab Access code for the textbook.

Instructional material will be provided through Brightspace.

Students will purchase access to MyMathLab from the MATH 1342.L88 Instructor Plan.

Login Instructions for MyMathLab are there as well.

**2. ACCESS TO A COMPUTER WITH HIGH SPEED INTERNET SERVICE. A cell phone will not work.**

3. Access to a printer—to print handouts normally handed out in a face-to-face class

4. Access Scanner or ability to photograph test work and input this into a document to submit.

5. Graph (or quad) paper—10 sheets min—may print from [www.incompetech.com/graphpaper/plain/](http://www.incompetech.com/graphpaper/plain/)

6. Calculator (scientific, non-graphing, non-phone)

7. Pencils, colored pens, binder, notebook paper, 3x5 index cards (suggested)

**Bookstore Website:** <http://www.mclennan.edu/bookstore/>

### **Course Objectives:**

This course is a quantitative reasoning course which means students will learn to use, understand, and communicate about quantitative information. Upon successful completion of this course, students will:

1. Use appropriate symbolic notation and vocabulary to communicate, interpret, and explain mathematical concepts.

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2. Define, represent, and perform operations on real numbers, applying numeric reasoning to investigate and describe quantitative relationships and solve real world problems in a variety of contexts.
3. Use algebraic reasoning to solve problems that require ratios, rates, percentages, and proportions in a variety of contexts using multiple representations.
4. Apply algebraic reasoning to manipulate expressions and equations to solve real world problems.
5. Use graphs, tables, and technology to analyze, interpret, and compare data sets.
6. Construct and use mathematical models in verbal, algebraic, graphical, and tabular form to solve problems from a variety of contexts and to make predictions and decisions.

**Bookstore Website:** <http://www.mclennan.edu/bookstore/>

### **Course Outline or Schedule:**

This schedule is subject to change as we navigate through the semester. I will make announcements of any upcoming changes in Brightspace and in MyMathLab. I will post these announcements in a timely fashion.

Math 0308.L88/Math 1342.L88

Co-requisite Courses

Spring 2022

### Tentative Calendar

Week	Dates	Topics	Dev Lessons	Stat Lessons
1	January 10 - 16	Common fractions Decimal fractions Percent Percentage Problems	Lesson 1 Lesson 2 Lesson 3 Lesson 3b	

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2	January 17 - 23	Order of Operations Venn Diagrams Bar Graphs Pie Charts	Lesson 4 Lesson 5 Lesson 6 Lesson 6b	
3	January 24 - 30	Statistical Thinking Types of Data Collecting Sample Data		Lesson 1 Lesson 2 Lesson 3
4	January 31 – February 6	Frequency Distributions Histograms Deceptive Graphs	Lesson 7	Lesson 4 Lesson 5 Lesson 6
5	February 7 - 13	Ratio & Proportion Solving Proportions Dimensional Analysis Algebraic concepts for solving linear equations Solve linear equations	Lesson 8 Lesson 9 Lesson 10 Lesson 11 Lesson 12	
6	February 14 - 20	Interpret & Use formulas Geometric Formulas Statistical Formulas	Lesson 13  Lesson 14 Lesson 15	

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7	February 21 - 27	Averages Weighted Mean Variation	Lesson 16	Lesson 7 Lesson 7 Lesson 8
<b>Week</b>	<b>Dates</b>	<b>Topics</b>	<b>Dev Lesson</b>	<b>Stat Lesson</b>
8	February 28 – March 6	Percentiles, Boxplots Probability More Probability	Lesson17 Lesson 18	Lesson 9 Lesson 10 Lesson 10b
9	March 14 - 20	Probability Distributions Binomial Probability		Lesson11 Lesson 12
10	March 21 - 27	Standard Normal Distribution Applications of Normal Distributions Sampling Distributions		Lesson 13 Lesson 14 Lesson 15
11	March 28 – April 3	Central Limit Theorem Confidence Intervals		Lesson 16 Lesson 17 Lesson 18

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		Estimating a Population Proportion		
12	April 4 - 10	Estimating a Population Mean Hypothesis Testing		Lesson 19  Lesson 20
13	April 11 - 17	Testing a Hypothesis for Population Proportion Testing a Hypothesis for Population Mean		Lesson 21  Lesson 22
14	April 18 - 24	Intro to Linear Relationships Slope and other characteristics of a line Scatterplots	Lesson 19  Lesson 20  Lesson 21	
15	April 25 – May 1	Graphing a linear relationship Correlation	Lesson 22 Lesson 23	Lesson 23
16	May 2 - 6	Final Exam Week  Our final Exam: Tuesday, May 3		

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### **Course Grading Information:**

#### **Grading will be either Credit or No Credit**

#### **Credit...at least 70% average on assignments, quizzes, and tests**

<i>Homework Assignments</i>	<i>30% of final grade</i>
<i>Vocabulary &amp; Video Quizzes</i>	<i>10% of final grade</i>
<i>Written Problem Solving Assignments</i>	<i>10% of final grade</i>
<i>Exams</i>	<i>50% of final grade</i>

#### **Grades CR: average of at least 70%**

#### **NC: average less than 70%**

*You must also pass the statistics course, MATH 1342.L88, to receive credit for this course.*

**Homework assignments are found on the MyMathLab website.** Your grades will be kept in a gradebook on that website, and I will also record your grades in a Brightspace gradebook.

### **Late Work, Attendance, and Make Up Work Policies:**

*Homework assignments from each Unit have a specific due date. All assignments must be completed with at least a grade of 70% by the due date in order to take the Unit Exam. At the end of the semester, I will drop the lowest grade from each of the Unit homework assignments (three grades will be dropped). After taking the Unit Exam, previous homework assignments will be reopened for you to complete or increase your grade. You can work the homework assignments as many times as you like, raising your grade on each to 100%.*

*Exams must be taken on time; you will have at least two days to log in and take the Unit Exam. You may take each Unit Exam two times and I will record the highest grade in the gradebook. Be sure to contact me if there is any difficulty in being able to take the exam in the indicated time window. You will have 90 minutes to take each Unit Exam.*

*Quizzes and other assignments must be completed by the specified due date for the assignment. There will be no makeup work for these, but I will drop the two lowest grades before calculating the Quiz average for the course.*

*You must pass the statistics course, MATH 1342.L88, in order to receive credit for this course.*



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### **Attendance:**

Since this is an online class, I will keep track of your attendance by your work on homework assignments, quizzes, and exams. If you complete at least two homework assignments during the week, I will count you present for the week. If you work on one assignment during the week, I will report **one absence** for the week. If you do not work on any homework assignments during the week, I will report **two (2) absences** for the week. **If you accumulate 8 absences, you will be dropped from the course.**

\* [Click Here for the MCC Attendance/Absences Policy](#)

([www.mclennan.edu/highlander-guide-2016-17/policies](http://www.mclennan.edu/highlander-guide-2016-17/policies))

Click on the link above for the college policies on attendance and absences. Your instructor may have guidelines specific to this course.

# McLennan

C O M M U N I T Y

# COLLEGE

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## ACADEMIC RESOURCES/POLICIES

### **Accommodations/ADA Statement:**

Any student who is a qualified individual with a disability may request reasonable accommodations to assist with providing equal access to educational opportunities. Students should contact the Accommodations Coordinator as soon as possible to provide documentation and make necessary arrangements. Once that process is completed, appropriate verification will be provided to the student and instructor. Please note that instructors are not required to provide classroom accommodations to students until appropriate verification has been provided by the Accommodations Coordinator. For additional information, please visit [www.mclennan.edu/disability](http://www.mclennan.edu/disability).

Students with questions or who require assistance with disabilities involving physical, classroom, or testing accommodations should contact:

[disabilities@mclennan.edu](mailto:disabilities@mclennan.edu)

254-299-8122

Room 319, Student Services Center

### **Title IX:**

We care about your safety, and value an environment where students and instructors can successfully teach and learn together. If you or someone you know experiences unwelcomed behavior, we are here to help. Individuals who would like to report an incident of sexual misconduct are encouraged to immediately contact the Title IX Coordinator at [titleix@mclennan.edu](mailto:titleix@mclennan.edu) or by calling Dr. Drew Canham (Chief of Staff for Diversity, Equity & Inclusion/Title IX) at (254) 299-8645. Individuals also may contact the MCC Police Department at 299-8911 or the MCC Student Counseling Center at MCC at (254) 299-8210. The MCC Student Counseling Center is a confidential resource for students. Any student or employee may report sexual harassment anonymously by visiting <http://www.lighthouse-services.com/mclennan/>.

Go to McLennan's Title IX webpage at [www.mclennan.edu/titleix/](http://www.mclennan.edu/titleix/). It contains more information about definitions, reporting, confidentiality, resources, and what to do if you or someone you know is a victim of sexual misconduct, gender-based violence or the crimes of rape, acquaintance rape, sexual assault, sexual harassment, stalking, dating violence, or domestic violence.

**Student Support/Resources:**

MCC provides a variety of services to support student success in the classroom and in your academic pursuits to include counseling, tutors, technology help desk, advising, financial aid, etc. A listing of these and the many other services available to our students is available at <http://www.mclennan.edu/campus-resource-guide/>

College personnel recognize that food, housing, and transportation are essential for student success. If you are having trouble securing these resources or want to explore strategies for balancing life and school, we encourage you to contact a Success Coach by calling (254) 299-8226 or emailing [SuccessCoach@mclennan.edu](mailto:SuccessCoach@mclennan.edu). Students may visit the Completion Center Monday-Friday from 8 a.m.-5 p.m. to schedule a meeting with a Success Coach and receive additional resources and support to help reach academic and personal goals. Paulanne's Pantry (MCC's food pantry) provides free food by appointment to students, faculty and staff based on household size. Text (254) 870-7573 to schedule a pantry appointment. The Completion Center and pantry are located on the Second Floor of the Student Services Center (SSC).

**MCC Foundation Emergency Grant Fund:**

Unanticipated expenses, such as car repairs, medical bills, housing, or job loss can affect us all. Should an unexpected expense arise, the MCC Foundation has an emergency grant fund that may be able to assist you. Please go to <https://www.mclennan.edu/foundation/scholarships-and-resources/emergencygrant.html> to find out more about the emergency grant. The application can be found at [https://www.mclennan.edu/foundation/docs/Emergency\\_Grant\\_Application.pdf](https://www.mclennan.edu/foundation/docs/Emergency_Grant_Application.pdf).

**MCC Academic Integrity Statement:**

Go to [www.mclennan.edu/academic-integrity](http://www.mclennan.edu/academic-integrity) for information about academic integrity, dishonesty, and cheating.

**Minimum System Requirements to Utilize MCC's D2L|Brightspace:**

Go to <https://www.mclennan.edu/center-for-teaching-and-learning/Faculty-and-Staff-Commons/requirements.html> for information on the minimum system requirements needed to reliably access your courses in MCC's D2L|Brightspace learning management system.

**Minimum Technical Skills:**

Students should have basic computer skills, knowledge of word processing software, and a basic understanding of how to use search engines and common web browsers.

**Backup Plan for Technology:**

In the event MCC's technology systems are down, you will be notified via your MCC student email address. Please note that all assignments and activities will be due on the date specified in the Instructor Plan, unless otherwise noted by the instructor.

**Email Policy:**

McLennan Community College would like to remind you of the policy (<http://www.mclennan.edu/employees/policy-manual/docs/E-XXXI-B.pdf>) regarding college email. All students, faculty, and staff are encouraged to use their McLennan email addresses when conducting college business.

A student's McLennan email address is the preferred email address that college employees should use for official college information or business. Students are expected to read and, if needed, respond in a timely manner to college emails.

**Instructional Uses of Email:**

Faculty members can determine classroom use of email or electronic communications. Faculty should expect and encourage students to check the college email on a regular basis. Faculty should inform students in the course syllabus if another communication method is to be used and of any special or unusual expectations for electronic communications.

If a faculty member prefers not to communicate by email with their students, it should be reflected in the course syllabus and information should be provided for the preferred form of communication.

**Email on Mobile Devices:**

The College recommends that you set up your mobile device to receive McLennan emails. If you need assistance with set-up, you may email [Helpdesk@mclennan.edu](mailto:Helpdesk@mclennan.edu) for help.

**Forwarding Emails:**

You may forward emails that come to your McLennan address to alternate email addresses; however, the College will not be held responsible for emails forwarded to an alternate address that may be lost or placed in junk or spam filters.

**Disclaimer:**

The resources and policies listed above are merely for informational purposes and are subject to change without notice or obligation. The College reserves the right to change policies and other requirements in compliance with State and Federal laws. The provisions of this document do not constitute a contract.